

I CLAIM:

1. A method of billing a wireless subscriber using a mobile telecommunications device for wireless communication services comprising the steps of:

processing a call associated with an originating address associated with the  
5 mobile telecommunications device, said processing performed by a mobile switching center connected to an antenna wherein the antenna is in radio communication with the mobile telecommunications device;

determining a first antenna identifier of the antenna associated with the call;  
recording the call start time and the originating address associated with the call in  
10 a call detail record data file maintained in the mobile switching center;

transferring the call detail record data file from the mobile switching center to a data processing center;

retrieving a rating profile associated with the originating address associated with the mobile telecommunications device comprising a second antenna identifier and a first  
15 billing rate; and

determining an amount to be billed for the call based in part on the comparison of the first antenna identifier with the second antenna identifier and the first billing rate.

2. The method of claim 1 wherein the call is a voice telephone call.

20 3. The method of claim 1 wherein the call is packetized data communication.

4. The method of claim 1 wherein the originating address is a telephone number.

25 5. The method of claim 1 wherein the originating address is an Internet Protocol address.

30 6. The method of claim 1 wherein the step of determining the amount to be billed further comprises using the first billing rate if the first antenna identifier matches the second antenna identifier and a second billing rate if the first antenna identifier does not match the second antenna identifier.

7. The method of claim 1 wherein the step of determining the amount to be billed further comprises using a first billing rate determined in part by comparing a time schedule with the recorded call start time.

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8. The method of claim 7 wherein the time schedule contains a peak time period associated with the first billing rate and an off-peak time period associated with a second billing rate.

10 9. A method of billing a wireless subscriber using a mobile telecommunications device for telephony services comprising the steps of:

processing a communication associated with an originating address, the originating address associated with the mobile telecommunications device, said processing using a switch connected to an antenna wherein the antenna is in radio communication with the mobile telecommunications device;

determining a first antenna identifier and a first antenna sector identifier associated with the communication between the mobile telecommunications device and the switch;

20 recording the communication start time, originating address and antenna sector identifier in a call detail record data file stored in the switch;

transferring the call detail record data file from the switch to a data processing center;

retrieving a rating profile associated with the originating address comprising a second antenna identifier, antenna sector identifier, and a billing rate; and

25 determining an amount to be billed for the communication based in part on the comparison of the first antenna identifier with the second antenna identifier, the comparison of the first antenna sector identifier with the second antenna sector identifier, and the billing rate.

30 10. The method of claim 9 wherein the communication is a voice telephone call.

11. The method of claim 9 wherein the communication is an instance of packetized data communication.
12. The method of claim 9 wherein the packetized data communication uses an 5 802.11 based wireless communications standard.
13. The method of claim 9 wherein the originating address is a telephone number.
14. The method of claim 9 wherein determining the amount to be billed further 10 comprises using a first billing rate if the first antenna identifier matches the second antenna identifier and the first antenna sector identifier matches the second antenna sector identifier, and a second billing rate if the first antenna identifier does not match the second antenna identifier.
15. 15. The method of claim 9 wherein the billing rate is dependent on a time schedule and determining the amount to be billed further depends on the communication start time recorded in the call detail data file compared to the time schedule.
16. The method of claim 14 wherein the time schedule contains a peak time period 20 and an off-peak time period.
17. A method of billing a wireless subscriber of a wireless telephone call comprising the steps of:
  - recording call detail information for the wireless telephone call in a file stored in a 25 mobile switching center wherein the call detail information comprises the starting time of the wireless telephone call, ending time of the call, originating telephone number, first antenna identifier and first antenna cell sector identifier associated with the call;
  - processing the call detail information by determining whether the first antenna identifier and first antenna sector identifier associated with the call is the same as a 30 second antenna identifier and second antenna sector identifier in a rating profile wherein the rating profile is associated with the originating telephone number; and

calculating a monetary amount associated with the call in part by determining the duration of the call and using a first billing rate indicated in the rating profile if the first antenna identifier and first antenna sector identifier associated with the call is the same as a second antenna identifier and second antenna sector identifier in a rating profile, or

5 by determining the duration of the call and using a second billing rate indicated in the rating profile if the first antenna identifier associated with the call is not the same as the second antenna identifier in the rating profile.

10 18. A method of billing a wireless subscriber for communication services associated with a call originating from a mobile telecommunications device located in a certain geographical location comprising the steps of:

recording call detail information in a file wherein the call detail information comprises a starting time of the call, an ending time of the call, an originating telephone number of the caller, and a first geographical location indicator associated with the call;

15 transmitting the call detail information to a billing system;

determining the amount due for the call by using the geographical location indicator of the call, the duration of the call, and a subscriber billing rate wherein the amount due is determined in part by whether the first geographical location indicator of the call matches a second geographical location indicator contained in a rating profile 20 associated with the originating telephone number; and

recording the amount due in a billing file associated with the originating telephone number.

25 19. The method of claim 18 wherein the location indicator comprises an antenna number.

20. A system for billing a wireless subscriber for a wireless call where the subscriber originates a call within a certain prearranged geographic location entitling the caller to a specified billing rate, comprising:

30 a mobile communications device associated with a telephone number capable of originating a call within the certain geographic location;

an antenna having at least one antenna sector capable of handling a radio communication of the call originated by the mobile phone;

5 a mobile switching center operatively connected to the antenna and switching the call originating from the mobile communications device, wherein the switch is capable or recording information associated with the call in a call record file including the starting time of the call, ending time of the call, telephone number associated with the mobile communications device, antenna number associated with the call, and sector number associated with the antenna; and

10 a billing system comprising a first database capable of receiving the call record file from the mobile switching center, a second database storing a rating profile file information comprising a second antenna number associated with the telephone number of the mobile communications device, a processor processing the call record file and rating profile file to determine an amount due associated with the call by determining whether the antenna number in the call record file matches the second antenna number indicated in the rating profile file, and a third database storing the amount due associated with the call.

20 21. The system of claim 20 wherein the mobile switching center is operatively connected to an HLR containing the telephone number and an indication of fixed location wireless service.

22. A billing system for billing a subscriber of a wireless service comprising:  
a billing processor capable of processing a call detail file received from a mobile switching center wherein the call detail record file contains records comprising the starting time of the call, ending time of the call, telephone number associated with a wireless communications device associated with the call, and a network antenna associated with the call, wherein the processing determines a bill for a subscriber in part by processing the call detail file using a rating profile to generate billing information;  
a first database, operatively connected to the billing processor, storing the call detail records;

- a second database, operatively connected to the billing processor, storing a subscriber rating profile comprising the telephone number associated with the wireless communications device, rating information, and antenna identification information; and
- a third database operatively connected to the billing processor storing the billing information generated by the billing processor.

5 23. A method for handling an wireless emergency call originating from a fixed location wireless subscriber, comprising the steps of:

- receiving a call origination request at a mobile switch from the fixed location
- 10 wireless subscriber containing a calling party number and a dialed number;
- accessing a first database and determining whether the calling party number associated with the call originating request is associated with a fixed location wireless service;
- analyzing the dialed number in the call origination request and determining the
- 15 dialed number is equal to 911;
- accessing a second database indexed by the calling party number containing an location address associated with the fixed location wireless subscriber; and
- sending the location address to a public safety answering point.